



Stage 8: Making a food product

Learning Intentions:

- To make a calcium-rich food product
- To prepare vegetables safely

Stage overview:

In this stage, the children will work in their business groups to use the butter that they made, along with additional ingredients they budgeted for, to follow their adapted food product recipes and make their calcium-rich food product. This is an excellent opportunity to provide children with meaningful, real-life opportunities to apply their Maths learning. The 'Maths with meaning' section provides ideas that could be used to teach or reinforce many of the Year 4 learning objectives in a practical way.

Materials needed:

- Butter (made by the children)
- Additional ingredients that the children wish to add to their tartlets
- Weighing scales
- Measuring jugs
- Mixing bowls
- Vegetable knives
- Tablespoons
- Teaspoons
- Mixing spoons
- Recipes that the children have adapted

Presentation notes:

Slide 2: Food hygiene	<ul style="list-style-type: none">- Explain that before we can begin preparing our food products, we need to wash our hands thoroughly with soap and water, tie back long hair and clean our work surfaces.
Slide 3: Safety in the kitchen	<ul style="list-style-type: none">- Ask the children to look around the room and spot the potential hazards. E.g. sharp knives, peelers and graters; hot ovens, hobs, pans; slipping on spilt liquids/ food etc.- Take feedback and make sure the children's attention is drawn to the hazards before they begin preparing their products.- This section of the project could be extended by asking the children to take photographs and videos of potential hazards in the kitchen and make a short safety film using applications such as 'iMovie', 'Quik' or 'Splice'.- Alternatively, they could create a food safety poster using the 'PicCollage' application or word processing.

Slide 4- 14: Preparing vegetables	<ul style="list-style-type: none"> - These slides have been produced by Primary Food Tech and provide step by step guidance on how to safely chop and prepare vegetables. - Use the relevant slides to model how to safely prepare the vegetable/ fruit ingredients the children have chosen. These slides could also be printed and laminated so the children can refer to them while they work.
Slide 15: Making shortcrust pastry	<ul style="list-style-type: none"> - Model how to use the 'rubbing in method' to make the shortcrust pastry. - The children could also use green screen technology e.g. the 'DoInk Greenscreen' iPad application to pretend to be a television chef and create a short instructional video about how to make their recipe.

Adding a pinch of Maths with meaning!

Understanding scales:

Interpreting scales is often an area of confusion for children so exposing them to as many different scales as possible, in as many contexts as possible, is important for teaching them the basic skills that they need to interpret them accurately when they are presented in a text book or test paper. Cooking is a great opportunity for this as there are so many different scales to interpret: weighing scales, thermometers, oven dials, measuring jugs etc. Take every opportunity to examine scales together during this activity!

- Start by looking at the numbers on the scale. What is the pattern? How much do they go up by each time? How can you work this out if you're not sure? (subtraction)
- If the difference between each number on the scale is, for example, 200 and there are 4 increments between each number, which operation can we use to work out how much each increment on the scale represents? (division)
- If we now know that each increment increases by 50, then we can work out how much any of the increments represent by counting on in 50s from the closest number on the scale.
- Using these steps to help the children understand the scale they are working with before they try to measure their ingredients will increase their accuracy as they can work out where on the scale they need to get to when pouring out their ingredients.

Comparing mass:

Weighing and measuring ingredients provides a useful opportunity for comparing mass and starting to introduce the relationship between grams and kilograms. This can be a tricky concept so teaching it in a practical context gives it meaning and makes it memorable which can significantly improve children's understanding.

- Taking measuring flour as an example, start by looking at how much a large bag of flour weighs (Use a 1kg bag) and explain that there are 1000 little grams in each kilogram. Write this on the board.
- Give the children the opportunity to feel how heavy a kilogram is. Then ask them to make their hands into a bowl shape and scoop out as much flour as they can hold. This will be approximately 100 grams. Ask the children to use comparative language to compare the two masses.
- Show the children various amounts of flour and ask them to estimate their masses and then check their answers by weighing them.
- Take the opportunity to look at the scale and work out the size of the intervals.
- Ask the children to look at the relationship between grams and kilograms and tell you whether there are more grams or kilograms? Why is the number of grams larger? Grams are a thousand times smaller than kilograms so we need a thousand times more of them to fill up the 1kg bag.
- Ask the children to use this information to work out how many grams would be in half a kilogram and extend them to thinking about a quarter of a kilogram.

Fractions

After the children have made their tartlets and photographed them for their advertising campaigns, you could bring in some fractions revision before they sample them.

Comparing, ordering and calculating with fractions with the same denominator

- Ask: if I wanted to share my tartlets with one/three other person/ people, how many EQUAL portions will I need to divide them into? Use questioning to revise the meaning of the denominator of a fraction= how many parts the whole has been divided into.
- Ask the children to divide of their tartlets into sixths. How many pieces do you need to cut it into?

- Use questioning to revise the meaning of the numerator e.g. how many sixths have you got on your plate? Can you eat one sixth of your product? How many sixths will be left? Reinforce each question with a written number sentence on the board.

- Ask simple questions to embed the children’s understanding of the meaning of the numerator e.g. if you eat three eighths of your product and your partner eats five eighths, who will have eaten more of the whole?

Links to the National Curriculum:

Subject	Topic	Objective
Design and Technology	Cooking and nutrition	- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
	Make	- Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately
	Evaluate	- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
Maths	Measurement	- Convert between different units of measure (for example, kilometre to metre; hour to minute) - Estimate, compare and calculate different measures
	Fractions	- Add and subtract fractions with the same denominator
Computing		- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.